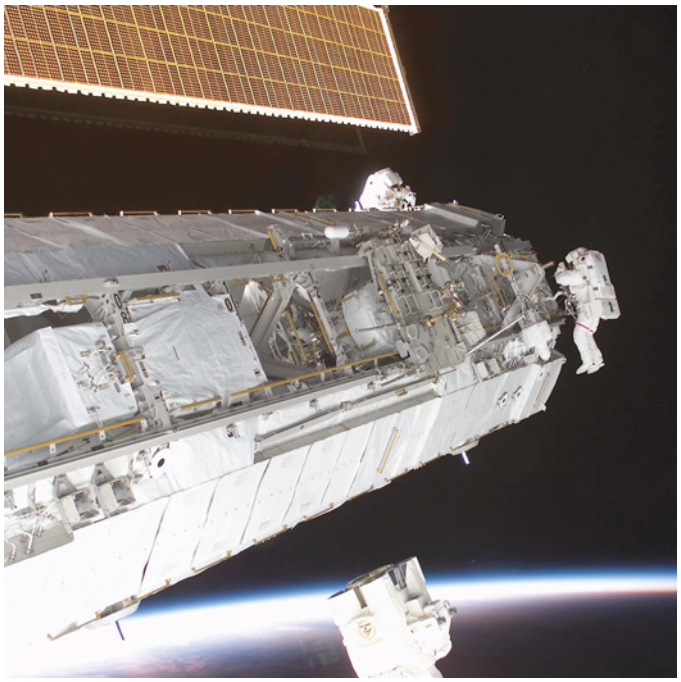

Astronauts Michael E. Lopez-Alegria and John B. Herrington work on the newly installed Port One (P1) truss on the International Space Station (ISS) during the STS-113 mission. The spacewalk lasted 6 hours, 10 minutes. The end effector of the Canadarm2 / Space Station Remote Manipulator System (SSRMS) and Earth's horizon are visible in bottom of frame.

THEMES

International Space Station

Space Shuttle

Space and Flight Support

SPACE FLIGHT

PURPOSE

The Space Flight Enterprise programs ensure that the Nation will have reliable, safe, and affordable access to space for our human and robotic explorers, and open new exploration and research opportunities through the extension of human presence off Earth. The Space Flight Enterprise enables research by delivering transportation systems such as the Space Shuttle, providing operational research facilities in space such as the International Space Station, and by providing space communications systems and supporting space infrastructure. The Enterprise also provides the essential system necessary to open the space frontier to the broadest extent possible – the human system. In many cases, innovative technologies are most effective when used to leverage or enhance the productivity of humans.

Looking ahead, the Space Flight Enterprise is examining new capabilities and infrastructures to make possible new generations of space systems and space operations that could enable a range of future exploration objectives, including eventual campaigns of human/robotic exploration of the moon and the planets as well as the deployment and servicing of new generations of space observatories. The Space Flight Enterprise, because of its critical relationship to the future of human space flight, has a unique role to play in the inspiration of the next generation of explorers: our future on Earth and in space.

ENTERPRISE: Space Flight

FY 2002 ACCOMPLISHMENTS

On November 2, 2002, the International Space Station celebrated the second full year of continuous, permanent human habitation in space in the world's first international orbital outpost. For the Station, FY 2002 was an ambitious and virtually flawless year of expansion and research. What began as the largest, most sophisticated and powerful spacecraft ever built has grown to a capacious, efficiently organized laboratory and living complex whose internal volume now resembles that of a three-bedroom house. As construction of the Station continued, so did the amount of scientific research taking place on board. In FY 2002, crewmembers devoted approximately 920 hours to research, and NASA accomplished four successful Space Shuttle missions. Three of the missions delivered crew, supplies, and assembly pieces to the Space Station, bringing the total number of Shuttle flights to the Station to 15. The remaining Shuttle mission was a spectacularly successful servicing mission to the Hubble Space Telescope. This mission made one of the best astronomical observatories ever built even better by installing new solar panels, an improved central power unit, and a new camera that increased Hubble's "vision" tenfold. The crew even revived a disabled infrared camera on Hubble. The missions met or exceeded the indicators noted above: there were no mishaps over the threshold and flight anomalies were kept within goal.

Originally, NASA had planned seven shuttle flights for FY 2002. Three flights were delayed due to safety concerns with the propulsion system hardware. Diligent work went into the discovery and repair of tiny cracks in metal liners used to direct the fuel flow inside propellant lines on the Space Shuttle orbiters. This was just one example of NASA employees making a positive difference through their commitment to the safe accomplishment of our missions.

In FY 2002, NASA completed an independent assessment of potential business options for future Space Shuttle operations. This assessment is essential to the planned 2003 rollout of a Shuttle competitive sourcing plan that aligns with the President's Management Agenda. We also factored the independent assessment's results into the new Integrated Space Transportation Plan. This plan coordinates our space transportation investments to most effectively support science-driven exploration and provide continued safe, reliable human access to the Space Station.

THEME DISTRIBUTIONS

Budget Authority ($ in millions)	FY 2002	FY 2003 President's Budget, As Amended	FY 2004 President's Budget
International Space Station	1,720.8	1,492.1	1,707.1
Space Shuttle	3,270.0	3,208.0	3,968.4
Space and Flight Support	600.9	238.7	434.3
Institutional Support	1,181.5	1,192.1	--
Total	6,773.2	6,130.9	6,109.8

Note: For all formats, the FY 2002 column reflects the FY 2002 Congressional Operating Plan dated 9/30/02. The FY 2003 column reflects the FY 2003 Presidents Budget Submit (PBS) as Amended. FY2004 column is in full cost.

Indicates budget numbers in Full Cost.

International Space Station

This theme supports activities for establishing a permanent human presence in Earth orbit – the International Space Station. The Space Station provides a long-duration habitable laboratory for science and research activities to investigate the limits of human performance, expand human experience in living and working in space, and enable commercial development of space. The Space Station will allow unique, long-duration, space-based research in cell and developmental biology, plant biology, human physiology, fluid physics, combustion science, materials science, and fundamental physics. It will also provide a unique platform for observing the Earth's surface and atmosphere, the Sun, and other astronomical objects. Highlights for FY 2004 include:

ENTERPRISE: Space Flight

Overall budget

FY 2004 request is $1,707 million, a $144 million or 7.8 percent decrease from FY 2003 President's Request (full cost):

- Funding drops as planned as development activities near an end and on-orbit operations and research becomes the focus of the program.
- Maintains proposal in FY 2003 Budget Amendment including additional funds for reserves plus funding Node 3 and Environmental Closed Life Support System (ECLSS) in FY 2004.
- Continues significant progress toward resolving the Space Station management and cost control issues that confronted the program at the end of 2001. Many changes based on recommendations of the ISS Management and Cost Evaluation (IMCE) task force have increased NASA's confidence in achieving success with the U.S. Core Complete station.
- A new management team is in place with the authority to control program content, to ensure station capabilities are driven by science requirements, and to make the appropriate decisions as the program moves from development into its operational phase.
- The development of NASA's integrated financial management core system and a management information system are progressing on schedule.
- The Space Station program is well on its way to completing work on the U.S. Core Complete configuration. Flight elements undergoing ground integration and test are proceeding on schedule, and the last U.S. flight element is scheduled for delivery to NASA by the spring of 2003.

Space Shuttle

This theme builds on the Shuttle's primacy as the world's most reliable and versatile launch system. The shuttle, first launched in 1981, provides the only capability in the United States for human access to space. In addition to transporting people, materials, and equipment, the Space Shuttle allows astronauts to service and repair satellites and build the Space Station. The Space Shuttle can be configured to carry different types of equipment, spacecraft, and scientific experiments that help scientists understand and protect our home planet, explore the Universe, and inspire the imagination of the American people. Highlights for FY 2004 include:

Overall budget

FY 2004 request is $3,968 million, a $183 million or 4.8 percent increase over FY 2003 President's Request (full cost):

- Supports steady state flight rate of five per year.
- Provides $379 million ($1.7 billion over five-years) for Space Shuttle Service Life Extension, a program to improve safety and infrastructure needs to allow flying Space Shuttle into the next decade.
- Exploring all alternatives for competitive sourcing of Shuttle flight operations following the conclusion of the current Space Flight Operations Contract in order to best fly safely, meet flight schedule, and improve the existing Shuttle system.

ENTERPRISE: Space Flight

Space and Flight Support

This theme encompasses space communications, launch services, rocket propulsion testing, and advanced systems. Space communications consists of the tracking and data relay satellite system (TDRSS), which supports space shuttle, expendable launch vehicles, and research aircraft, and the NASA integrated services network, which provides telecommunications services at facilities such as flight support networks, mission control centers and science facilities, and administrative communications networks for NASA centers. The Launch Services program focuses on meeting the Agency's launch and payload processing requirements by assuring safe and cost effective access to space via the Space Shuttle and expendable launch vehicles. Rocket propulsion testing supports a core of highly trained test and engineering crews and test facilities. Advanced Systems program includes studies of human and robotic exploration of space. Highlights for FY 2004 include:

Overall budget
FY 2004 request is $434 million, a $36 million or 7.7 percent decrease from FY 2003 President's Request (full cost):

- $125 million for Space Communications budget. Continues support for formulation phase of TDRS Continuation project.
- $142 million for oversight of expendable launch vehicle flights and supporting payload carriers for Shuttle launches.
- $62 million for rocket propulsion testing.
- $85 million for environmental compliance including $44 million for Plum Brook cleanup.